CLAIMS

1. A nucleic acid molecule encoding a VEGF-X protein or a functional equivalent, derivative or bioprecursor thereof, said protein comprising any of the sequences from position 23 to 345 of the amino acid sequence illustrated in Figure 10, or the complete sequence as illustrated in Figure 10.

2. A nucleic acid molecule according to claim 1 wherein said nucleic acid is a DNA molecule.

3. A nucleic acid molecule according to claim 1 or 2 wherein said nucleic acid is a cDNA molecule.

4. A nucleic acid molecule according to claim 3 comprising the nucleotide sequence from position 257 to 1291 of the nucleotide sequence illustrated in Figure 9, or sequences that hybridise thereto under high stringency conditions or the complement thereto.

5. An antisense molecule capable of hybridising to a molecule according to any of claims 1 to 4 under high stringency conditions.

6. A nucleic acid molecule according to any of claims 1 to 4 which is of mammalian origin.

7. A nucleic acid molecule according to claim 6 which is of human origin.

8. An isolated VEGF-X protein, or a functional equivalent, derivative or bioprecursor thereof, having an amino acid sequence from position 23 to 345 of the amino acid sequence illustrated in Figure 10 or the complete amino acid sequence of Figure 10.

SUB A2

SUB A3

9. A VEGF-X protein, or a functional equivalent, derivative or bioprecusor thereof, encoded by a nucleic acid molecule as defined in any of claims 1 to 4.

SUB A4

10. A protein according to claim 9, which comprises the amino acid sequence illustrated in Figure 10.

11. An expression vector comprising a nucleic acid molecule according to any of claims 1 to 4.

12. An expression vector according to claim 11 further comprising a nucleotide sequence encoding a reporter molecule.

13. An expression vector comprising an antisense molecule according to claim 5.

SUB A5

14. A nucleic acid molecule according to any of claims 1 to 4 or an antisense molecule according to claim 5 for use as a medicament.

15. A host cell transformed or transfected with an expression vector according to claim 11 or 12.

16. A host cell transformed or transfected with an expression vector according to claim 13.

SUB A6

17. A transgenic cell, tissue or organism comprising a transgene capable of expressing a VEGF-X protein according to claim 8 or 9.

18. A transgenic cell, tissue or organism according to claim 17, wherein said transgene is included in an expression vector.

19. A VEGF-X protein or a functional equivalent, derivative or bioprecursor thereof, expressed by a

cell according to claim 15.

20. A VEGF-X protein, or a functional equivalent, derivative or bioprecursor thereof, expressed by a transgenic cell, tissue or organism according to claim 17.

21. A process for producing a VEGF-X protein according to any of claims 8 to 10, said process comprising transforming a host cell or organism with an expression vector according to claim 11, and recovering the expressed protein from said host cell or organism.

22. An antibody capable of binding to a protein according to any of claims 8 to 10, or an epitope thereof.

23. An antibody according to claim 22 for use as a medicament.

24. A pharmaceutical composition comprising an antibody according to claim 22 together with a pharmaceutically acceptable carrier diluent or excipient thereof.

25. A method of identifying VEGF-X protein in a sample which method comprises contacting said sample with an antibody according to claim 22 and monitoring for binding of any protein to said antibody.

26. A kit for identifying the presence of VEGF-X protein in a sample which comprises an antibody according to claim 22 and means for contacting said antibody with said sample.

27. A method of identifying compounds which modulate

angiogenesis which method comprises providing a host cell or organism according to claim 15 or a transgenic cell, tissue or organism according to claim 17, contacting a test compound with said cell, tissue or organism and monitoring for an effect of said compound on said VEGF compared to a host cell or organism according to claim 15 or a transgenic cell tissue or organism according to claim 17 which has not been contacted with said compound.

28. A compound identifiable according to the method of claim 27.

29. A compound according to claim 28 for use as a medicament.

30. A nucleic acid sequence comprising the nucleotide sequences illustrated in any of Figures 3, 5, 8 or 13.

31. A method for producing a polypeptide, said method comprising the steps of:

a) culturing the host cell of claim 15 under conditions suitable for expression of the polypeptide; and
b) recovering the polypeptide from the host cell culture.

32. A method of inhibiting angiogenic activity and inappropriate vascularisation including formation and proliferation of new blood vessels, growth and development of tissues, tissue regeneration and organ and tissue repair in a subject said method comprising administering to said subject an amount of an antisense molecule according to claim 5 in sufficient concentration to reduce or prevent said angiogenic activity.

SUB A1

33. A method of inhibiting angiogenic activity or inappropriate vascularisation including any of formation and proliferation of new blood vessels, growth and development of tissues, tissue regeneration and organ and tissue repair in a subject said method comprising administering to said subject an amount of an antibody according to claim 22 in sufficient concentration to reduce or prevent said angiogenic activity or inappropriate vascularisation.

34. A method of inhibiting angiogenic activity or inappropriate vascularisation including any of formation and proliferation of new blood vessels, growth and development of tissues, tissue regeneration and organ and tissue repair in a subject, said method comprising implanting in said subject cells that express an antibody according to claim 22.

35. A method of treating or preventing any of cancer, rheumatoid arthritis, psoriasis and diabetic retinopathy, said method comprising administering to said subject an amount of an antisense molecule according to claim 5 in sufficient concentration to treat or prevent said disorders.

36. A method of treating or preventing any of cancer, rheumatoid arthritis, psoriasis and diabetic retinopathy, said method comprising administering to said subject an amount of an antibody according to claim 22 in sufficient concentration to reduce or prevent said disorders.

37. A method of promoting angiogenic activity or vascularisation to promote wound healing, skin graft growth, tissue repair, proliferation of new blood vessels, tissue regeneration and organ repair which

method comprises applying or delivering to a site of interest a therapeutically effective amount of any of a group selected from a protein according to claim 8 and a nucleic acid molecule encoding a VEGF-X protein or a functional equivalent, derivative or bioprecursor thereof comprising an amino acid sequence illustrated in Figure 10, an expression vector comprising said nucleic acid molecule and a pharmaceutical composition comprising any of said nucleic acid molecule and said protein.

38. A method of treating wounds selected from the group consisting of dermal ulcers, pressure sores, venous sores, diabetic ulcers and burns by applying to said wound a therapeutically effective amount of any of a VEGF-X protein according to claim 8, a pharmaceutical composition comprising said protein and a pharmaceutically acceptable carrier, diluent or excipient therefor.

39. A nucleic acid molecule encoding a polypeptide having a CUB domain said polypeptide comprising the amino acid sequence from position 40 to 150 of the sequence of Figure 10.

40. A nucleic acid molecule encoding a polypeptide having a CUB domain, said polypeptide comprising the amino acid sequence of Figure 26.

Sub A10

41. A nucleic acid molecule according to claim 39 or 40, comprising the nucleotide sequence from position 5 to 508 of the sequence illustrated in Figure 26.

42. A nucleic acid molecule according to any of claims 39 to 41 comprising the nucleotide sequence illustrated in Figure 26.

43. A nucleic acid molecule encoding a VEGF like domain comprising the sequence from position 214-345 of the sequence of Figure 10 or the sequence from position 15 to 461 illustrated in Figure 24.

SUB A11

44. An expression vector comprising a nucleic acid molecule according to any of claims 39 to 42.

45. An expression vector comprising a nucleic acid molecule according to claim 43.

46. A host cell transformed or transfected with an expression vector according to claim 44.

47. A host cell transformed or transfected with an expression vector according to claim 45.

48. A protein expressed by the cell according to claim 46.

49. A protein expressed by the cell according to claim 47.

50. A method of identifying compounds that inhibit or enhance angiogenic activity, said method comprising contacting a cell expressing a VEGF receptor and/or a neuropilin 1 or 2 type receptor with said compound in the presence of a VEGF-X protein according to claim 8 and monitoring for the effect of said compound or said cell when compared to a cell which has not been contacted with said compound.

51. A compound identifiable according to the method of claim 50 as an inhibitor or enhancer of angiogenic activity.

SUB A12

52. A method of inhibiting angiogenic activity or

SUB A12 CONT.

inappropriate vascularisation, said method comprising contacting a cell expressing a VEGF receptor and a neuropilin type receptor with a protein selected from any of a protein according to any of claims 8 to 10 and a protein according to claim 48 or a protein according to claim 49.

53. Use of a nucleotide sequence illustrated in any of Figures 14 and 15 in identifying a VEGF-X protein according to claim 8.

54. A nucleic acid molecule encoding a polypeptide comprising a CUB domain having the sequence from position 40 to 150 of the sequence of Figure 10 or from position 5 to 508 of the sequence of Figure 26 and a sequence encoding a VEGF domain.

55. A nucleic acid molecule according to claim 54 wherein said sequence encoding said VEGF domain is selected from the sequences encoding any of VEGF A to D or isoforms or variants thereof.

SUB A13

56. A nucleic acid molecule encoding a polypeptide comprising the amino acid sequence from position 40 to 150 of the sequence illustrated in Figure 10 for use as a medicament.

57. Use of a nucleic acid molecule encoding a polypeptide having the amino acid sequence from position 40 to 150 of the sequence illustrated in Figure 10 in the manufacture of a medicament for treatment of disease conditions associated with inappropriate angiogenesis such as tumour or cancer growth, retinopathy, osteoarthritis or psoriasis.

58. A polypeptide comprising the amino acid sequence from position 40 to 150 of the sequence illustrated in

figure 10 for use as a medicament.

59. A polypeptide comprising the amino acid sequence from position 40 to 150 of the sequence illustrated in Figure 10 in the manufacture of a medicament for the treatment of disease conditions associated with inappropriate angiogenesis such as tumour growth, retinopathy, osteoarthritis or psoriasis.

60. Use of a CUB domain comprising the amino acid sequence from position 40 to 150 of the sequence of Figure 10, or the amino acid sequence of Figure 26, to identify compounds which inhibit angiogenic activity in a method according to claim 50.

SUB A14

61. A method of inhibiting angiogenic activity and inappropriate vascularisation including formation and proliferation of new blood vessels, growth and development of tissues, tissue regeneration and organ and tissue repair in a subject said method comprising administering to said subject an amount of a polypeptide having an amino acid sequence from position 40 to 150 of the sequence illustrated in Figure 10 or a nucleic acid molecule according to any of claims 39 to 42 in sufficient concentration to reduce or prevent said angiogenic activity.

62. A method of treating or preventing any of cancer, rheumatoid arthritis, psoriasis and diabetic retinopathy, said method comprising administering to said subject an amount of a polypeptide having an amino acid sequence from position 40 to 150 of the sequence illustrated in Figure 10 or a nucleic acid molecule according to any of claims 39 to 42 in sufficient concentration to treat or prevent said disorders.

SUB A14 CONT.

63. An antisense molecule capable of hybridising to a molecule according to any of claims 39 to 42 under high stringency conditions.

64. An antisense molecule capable of hybridising to a molecule according to claim 43 under high stringency conditions.

65. A transgenic cell, tissue or organism comprising a transgene capable of expressing a protein according to claim 48.

66. A transgenic cell, tissue or organism comprising a transgene capable of expressing a protein according to claim 49.

SUB A15

67. A transgenic, cell tissue or organism according to claim 65 or 66, wherein said transgene is included in an expression vector according to claim 41 or 42.

68. An antibody capable of binding to a protein according to claim 48 or an epitope thereof.

69. An antibody capable of binding to a protein according to claim 49 or an epitope thereof.

SUB A16

70. A pharmaceutical composition comprising an antibody according to claim 68 or 69 together with a pharmaceutically acceptable carrier diluent or excipient therefor.

71. A pharmaceutical composition comprising a compound according to claim 48 together with a pharmaceutically acceptable carrier, diluent or excipient therefor.

SUB A17

72. A nucleic acid molecule encoding a variant of a

SUB A17 CON'T

VEGF-X protein having any of the sequences of nucleotides illustrated in Figure 12.

Kindly insert the paper copy of the sequence listing provided herewith as pages 56-87 into the specification. Kindly renumber the pages of claims beginning at page 88.

IN THE CLAIMS

Kindly cancel claims 23, 53, and 58

Kindly amend the following claims:

A2

3. (Amended) A nucleic acid molecule according to claim 1 wherein said nucleic acid is a cDNA molecule.

A3

5. (Amended) An antisense molecule capable of hybridising to a molecule according to claim 1 under high stringency conditions.

6. (Amended) A nucleic acid molecule according to claim 1 which is of mammalian origin.

9. (Amended) A VEGF-X protein, or a functional equivalent, derivative or bioprecursor thereof, encoded by a nucleic acid molecule as defined in claim 1.

A4

10. (Amended) A VEFG-X protein comprising the amino acid sequence illustrated in Figure 10.

11. (Amended) An expression vector comprising a nucleic acid molecule according to claim 1.

A5

14. (Amended) A pharmaceutical composition comprising a nucleic acid molecule according to claim 1 or an antisense molecule according to claim 5.

15. (Amended) A host cell transformed or transfected with an expression vector according to claim 11.

A6

17. (Amended) A transgenic cell, tissue or organism comprising a transgene capable of expressing a VEGF-X protein according to claim 8.

A7

21. (Amended) A process for producing a VEGF-X protein according to claim 8, said process comprising transforming a host cell or organism with an expression vector according to claim 11, and recovering the expressed protein from said host cell or organism.

22. (Amended) An antibody capable of binding to a protein according to claim 8, or an epitope thereof.

A8

26. (Amended) A kit for identifying the presence of VEGF-X protein in a sample which comprises an antibody according to claim 22.

A9

29. (Amended) A pharmaceutical composition comprising a compound according to claim 28 for use as a medicament.

30. (Amended) A nucleic acid sequence selected from the group consisting of the nucleotide sequences illustrated in any of Figures selected from the group of Figures comprising Figures 3, 5, 8 and 13.

A10

41. (Amended) A nucleic acid molecule according to claim 39, comprising the nucleotide sequence from position 5 to 508 of the sequence illustrated in Figure 26.

42. (Amended) A nucleic acid molecule according to claim 39 comprising the nucleotide sequence illustrated in Figure 26.

A11

44. (Amended) An expression vector comprising a nucleic acid molecule according to claim 39.

A12

52. (Amended) A method of inhibiting angiogenic activity or inappropriate vascularisation, said method comprising contacting a cell expressing a VEGF receptor and a neuropilin type receptor with a protein selected from the group of a protein according to claim 8, a protein according to claim 48, and a protein according to claim 49.

55. (Amended) A nucleic acid molecule according to claim 54 wherein said sequence encoding said VEGF domain is selected from the sequences encoding any of VEGF A to D.

A13

56. (Amended) A pharmaceutical composition comprising a nucleic acid molecule encoding a polypeptide, the polypeptide having an amino acid sequence comprising the amino acid sequence from position 40 to 150 of the sequence illustrated in Figure 10.

57. (Amended) A method for treating a disease condition associated with inappropriate angiogenesis including tumour or cancer growth, retinopathy, osteoarthritis or psoriasis in a patient comprising contacting the patient with a pharmaceutical composition comprising a nucleic acid molecule encoding a polypeptide having the amino acid sequence from position 40 to 150 of the sequence illustrated in Figure 10.

A14

59. (Amended) A method for treating a disease conditions associated with inappropriate angiogenesis such as tumour growth, retinopathy, osteoarthritis or

psoriasis comprising contacting the patient with a polypeptide comprising the amino acid sequence from position 40 to 150 of the sequence illustrated in Figure 10.

60. Use of a CUB domain comprising the amino acid sequence from position 40 to 150 of the sequence of Figure 10, or the amino acid sequence of Figure 26, to identify compounds which inhibit angiogenic activity in a method according to claim 50.

A14 CON7.

61. (Amended) A method of inhibiting angiogenic activity and inappropriate vascularisation including formation and proliferation of new blood vessels, growth and development of tissues, tissue regeneration and organ and tissue repair in a subject said method comprising administering to said subject an amount of a polypeptide having an amino acid sequence from position 40 to 150 of the sequence illustrated in Figure 10 or a nucleic acid molecule according to claim 39 in sufficient concentration to reduce or prevent said angiogenic activity.

62. (Amended) A method of treating or preventing any of cancer, rheumatoid arthritis, psoriasis and diabetic retinopathy, said method comprising administering to said subject an amount of a polypeptide having an amino acid sequence from position 40 to 150 of the sequence illustrated in Figure 10 or a nucleic acid molecule according to claim 39 in sufficient concentration to treat or prevent said disorders.

63. (Amended) An antisense molecule capable of hybridising to a molecule according to claim 39 under high stringency conditions.

A15

67. (Amended) A transgenic, cell tissue or organism according to claim 65, wherein said transgene is included in an expression vector according to claim 41.

A16

70. (Amended) A pharmaceutical composition comprising an antibody according to claim 68 together with a pharmaceutically acceptable carrier diluent or excipient therefor.

A17

72. (Amended) A nucleic acid molecule encoding a variant of a VEGF-X protein having a nucleotide sequence selected from the nucleotide sequences of Figure 12.

REMARKS

Claims 23, 53 and 8 have been canceled. The specification has been amended to incorporate the priority information for this Application. The claims have been amended solely for the purpose of removing multiple dependencies and aligning the claims to an acceptable claim format for U.S. examination. A substitute sequence listing has been provided along with a Computer Readable Form of the Sequence Listing. The undersigned hereby states that the Paper Copy and the Computer Readable Form are identical. No new matter has been added by these amendments. A version to show changes made accompanies this amendment. Favorable consideration of the remarks provided below is respectfully requested. Should the Examiner have any